



## Practical implementation of a microscope into general practice

BY DR CLEM MALOOF, BDS (HONS)

It was one of those decisions only to be made after returning from a good holiday and deciding that changes must be made to improve my way of working and to stoke my fire. Stagnation breeds stress and stress breeds resentment and fatigue - poisons for enthusiasm and practice sustainability. Thus it was after a holiday I decided to investigate the operating microscope for dentistry.

And what an absolute rejuvenator it has been! I will never be the same again. There was not a piece of hardware that I have ever owned that changed my life so much. The best thing about using the Global microscope that I ended up purchasing is that I use it for every single procedure and on every patient - even ones that require an almost upright posture. Now I figure if an investment is used, then it is worth every cent. This article intends to explain my experience of the microscope and pointers I discovered for the more apprehensive user and to encourage those who think they don't need it.

### The first month

As I was always a fan of magnification and having had major posture improvements with loupes, I realised in the first week that the difference between a microscope and loupes is much greater than the difference between loupes and nothing at all. Now that is a big statement when you consider it carefully. The use of loupes can be circumvented by occasionally getting your head closer to the patient at the most necessary times. Micro examination is unachievable by simply moving the operator's head closer or by basic magnification.

At first I wasn't sure which scope to look at and tried two in my practice for a week each. In between waiting for the second after the first was returned, the sense of loss was strong. At that point I realised I was in the market. The difference between scopes was immense and I urge anyone seeking to purchase to try at least two scopes in your room.

The follow through of products and service that are essentially tied to the scope is



also critical, especially for those new to the field. Global and its reseller Inline Systems gave suggestions regarding the latest developments in the field and were happy for me to settle on what I wanted after trialing different options. Like anything high tech, obsolescence is a fearful thought on a big purchase for a busy dentist. And Mike Harman from Inline really gave me confidence by offering different peripheral alternatives whilst awaiting a review of a newer product.

Initially, I managed to coordinate my fingers that seemed to move differently, by gently scaling supragingivally and then gradually subgingivally.

Using the microscope in the second week was similar to the industrial revolution!

After several examinations, scale

removal and even prophylaxis, I began to perform simple operative procedures on upper teeth. I was overwhelmed with the feeling of seemingly working in a movie theatre with a bright centre view and a dark surrounding and getting paid to do it.

### Confidence boost and case acceptance

The confidence boost alone to the dentist is enough to achieve a 30% increase in case acceptance. Whilst on case acceptance, if you thought an intraoral camera was useful, try multiplying this tenfold with a microscope. Once your patient realises your powerful 'bionic vision', trust in your diagnosis is automatic, especially if photography is incorporated and documented on patient records for the patient to see with their own eyes.

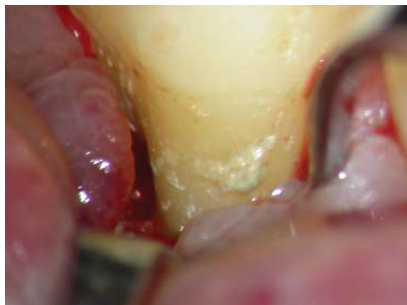


Figure 1.

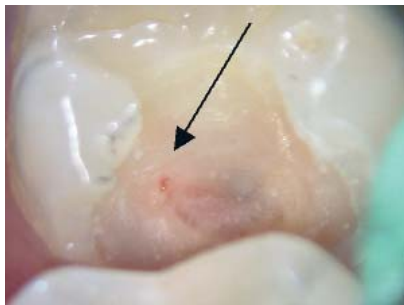


Figure 2.



Figure 3.



Figure 4.

## Improved vision saves time

Your work under microscopic magnification is incomparable to loupes:

- How many times have you had to wipe the sweat off your forehead after examining and carefully treating a difficult patient whose mandible hardly translates. We all have experienced this. Difficult access anywhere in their mouth is stressful and energy sapping. Operating microscopes relieve stress when vision is resolved in difficult access cases. Tremendous illumination and the nature of automatically utilising your mirror meant that I scaled distal of upper molars on the first appointment with ease. Ease of vision saves time.

- I used to wonder why contacts in my direct restorative dentistry were sometimes open instead of closed until I realised, under microscopy of 8 or 12x magnification, my matrix band was not even touching the adjacent tooth - even after burnishing.

- Periodontics - WOW! I thought I knew how to root plane and sharpen curettes. Operators relying on calculus detection by probing alone will be pleasantly surprised. When you can see 7mm down a pocket with a probe or a curette on 12 or 19x magnification, it is no wonder your patients return just like they do from the periodontist (Figure 1).

- After you pick out pulp stones that are sitting 3-5 mm down a canal, you start to realise that loupes are mere basic aids, whereas microscopy seems to funnel light down a root canal just like a fibre optic tube.

Sudden irretrievably lost working length is significantly less of an issue when you can see the debris that requires removal.

- It saves time to see the pulp exposure (Figure 2) and know your diagnosis before the patient calls you back in pain.

- Crown preps are far less traumatic to soft tissues (Figure 3). This makes impression taking easier, quicker and with less pain for the patient. In fact, one can confidently say that you become a far gentler dentist because you are more attentive to tissue.

## Moisture control and cavity hygiene

One starts to think of bonding in a vastly different way when you can really see your cavity the size of a television in front of your face. Suddenly you can see oral fluids threatening your bonding interface and you take steps to control it that you otherwise would not have known about.

## Factors to consider when determining if microscopy is for you

1. Rubber dam. If you cannot use rubber dam, then you will only benefit in some areas of use. Microscopy shines when using rubber dam. Your field of view is smaller and your efforts are consumed by managing the operating site not tissue retraction. Your assistant can be freed up to scout for assortments required in set-up and you are so absorbed in what you see you aren't bothered moving from the binoculars. So if you hate rubber dam or have never used it - get it now and have a go first.

2. If your aspiration has always been to achieve your best, then microscopy is like flying in the wind with wings that you can attach.

3. Are you generally an adaptable person, because if your friends have ever told you to try something new and you are never energetic enough to do so whilst they are moving on, then maybe this one belongs in the too hard basket also.

4. Do you have neck pain or shoulder pain and do you go home with a headache that heightens as the week progresses? If so, then microscopy is definitely for you.

## Adjusting to a microscope

There are those that go straight into it without difficulty. And those that plod along using a scope occasionally. The Global scope is terrific because of the true colours visible through the binoculars and the "visibility" was "normal".

## The unexpected

Funny things that you don't expect like upper quadrants being easier than lower to adjust to are strange to perceive but real. Other strange occurrences are:

1. Your nurse takes keen interest and becomes heavily motivated - well if you have a monitor attached to a camera she can see. Seeing does wonders for enthusiasm.

2. Your mirror becomes really useful. It is actually effortless to work whilst looking in the mirror. That's probably because your binoculars have a view of the oral cavity that is positioned more forward than your head and direct vision is at an obscure axis.

3. You can no longer possibly contemplate working without the microscope. You see you either love it and use it or you don't really use it much at all.

4. Small mirrors become wonderful. You never dreamed of a small mirror as big as your small fingernail, but now you will for certain applications (Figure 4).

5. You become high tech. Every patient will walk out realising you are high tech and they will tell all their friends too!

Overall, the microscope has enabled the delivery of dental excellence in all aspects of treatment. It is an irreversible change that is far reaching.

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*For more information on Global Surgical microscopes, contact Inline Systems on (02) 9999-2696.*